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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,378	09/25/2003	William B. Andrews	1054.027	1869

22186 7590 12/28/2004

MENDELSON AND ASSOCIATES PC
1515 MARKET STREET
SUITE 715
PHILADELPHIA, PA 19102

EXAMINER

CHANG, DANIEL D

ART UNIT	PAPER NUMBER
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2819

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/671,378

Applicant(s)

ANDREWS ET AL.

Examiner

Daniel D. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 and 13 is/are allowed.
- 6) ☒ Claim(s) 1-6,9 and 11 is/are rejected.
- 7) ☒ Claim(s) 7,8 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/1/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the circuit that controls the plurality of switch devices individually and selectively to compensate for variation in switch device resistance due to at least one of process and temperature must be shown (as recited in claims 6-8) or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

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The disclosure is objected to because of the following informalities: on page 1, line 5, the US patent application number is missing. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 9, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by McGowan (US 5,821,776).

Regarding claim 1, McGowan discloses, in Fig. 1, a programmable device having programmable input/output circuitry (14) and programmable logic (16-1, 16-2) connected to receive incoming signals from and provide outgoing signals to the I/O circuitry, the programmable device comprising:

a first pad (30); and

a programmable I/O circuit (PIC)(28-2, 32-1) associated with the first pad, wherein the PIC comprises:

a first output buffer (28-2; col. 7, lines 22+) adapted to present a first outgoing signal at the first pad; and

a first transmission gate (32-1) connected between the first pad and the first output buffer, wherein:

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the first transmission gate is adapted to be closed (col. 7, lines 57+) when the first output buffer is selected to present the first outgoing signal at the first pad; and

the first transmission gate is adapted to be open (col. 7, lines 57+) when the first output buffer is selected not to present the first outgoing signal at the first pad, wherein capacitive loading at the first pad due to the first output buffer is lower when the first transmission gate is open than when the first transmission gate is closed (inherent when the load is connected to pad 30).

Regarding claim 2, McGowan discloses, in Fig. 1, a first side of the first transmission gate is connected directly to the first pad (see 32-1 and 30); and

a second side of the first transmission gate is connected directly to an output of the first output buffer (see 32-1 and 28-2).

Regarding claim 3, McGowan discloses, in Fig. 1, that the first output buffer is a single-ended output buffer (col. 7, lines 22+).

Regarding claim 4, McGowan discloses, in Fig. 1, that the PIC further comprises:

one or more other output buffers (28-3), each adapted to present an other outgoing signal at the first pad; and

one or more other transmission gates (32-2), each connected between the first pad and a corresponding other output buffer, wherein:

each other transmission gate is adapted to be closed (col. 7, lines 57+) when the corresponding other output buffer is selected to present the corresponding other outgoing signal at the first pad; and

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each other transmission gate is adapted to be open (col. 7, lines 57+) when the corresponding other output buffer is selected not to present the corresponding other outgoing signal at the first pad, wherein capacitive loading at the first pad due to the other output buffer is lower when the other transmission gate is open than when the other transmission gate is closed (inherent when the load is connected to pad 30).

Regarding claim 5, McGowan discloses, in Fig. 1, that the first transmission gate comprises a plurality of switch devices connected in parallel between first and second sides of the first transmission gate (see 32-1).

Regarding claim 9, McGowan discloses, in Fig. 1, a programmable device having programmable input/output (I/O) circuitry and programmable logic connected to receive incoming signals from and provide outgoing signals to the I/O circuitry, the programmable device comprising:

- a plurality of pads (30, 22-1, 22-2);

- a programmable I/O circuit (PIC) (14 and part of 12) associated with the pads, wherein the PIC comprises:

 - a plurality of single-ended output buffers (28-2, 28-3), each associated with at least one pad; and

 - at least one double-ended output buffer (28-1; col. 7, lines 22+) associated with at least two pads; and

 - a transmission gate (32-1, 32-2) connected between each single-ended output buffer and its at least one associated pad.

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Regarding claim 11, McGowan discloses, in Fig. 1, that the PIC further comprises a plurality of input receivers (20-1, 20-2), each associated with at least one pad (22-1, 22-2).

Allowable Subject Matter

Claims 12-13 are allowed.

Claims 6-8 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

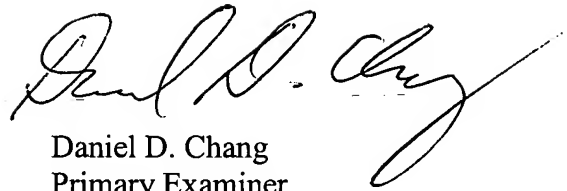
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel D. Chang whose telephone number is (571) 272-1801. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Tokar can be reached on (571) 272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "Daniel D. Chang", with a long, sweeping horizontal stroke extending to the right.

Daniel D. Chang
Primary Examiner
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DANIEL CHANG
PRIMARY EXAMINER

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